



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D3391-011
Job Sheet 178429



Part No: D3391-011

Job Qty: 1 ea

Part Name: Fwd Tube Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 5/31/18

Job Tracking No:

Due Date: 6/8/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV J SHEETS 3,5 IPP A 05.09.13 New issue KJ/JLM IPP B IPP C 07.03.13 revF dwg ec IPP D 07.11.01 ecn1053P EC IPP Rev:E ECN 1056 07-11-12 DD verified by:EC IPP Rev:F 08-09-08 new process (ecn 08-510) DD verified by:EC IPP Rev:G 08-09-10 revH as per dwg DD verified by:EC IPP Rev:H 10.04.07 add part in bom DD verified by:JLM IPP Rev:I 11.11.14 AS PER REV.I DD verified by:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	6/8/18	6/8/18	0.00	0.00	Start Up Skid tubes-1		MGC
100	Skid tubes	1 pcs	6/8/18	6/8/18	0.00	0.91	Skid tubes-3		MGC
110	CNC Bend Skid tubes	1 pcs	6/8/18	6/8/18	0.00	1.05	CNC Bend Skid tube		MGC
120	QC	1 pcs	6/8/18	6/8/18	0.00	0.00	QC5		BE
130	CNC Vertical Machining	1 pcs	6/8/18	6/8/18	2.76	1.05	HAAS1-3		Kt 2018-06-12
140	QC	1 pcs	6/8/18	6/8/18	0.00	0.00	QC2 Machining-2		Kt 2018-06-12
150	Mill Conv	1 pcs	6/8/18	6/8/18	0.00	0.26	Mill Conv 1		18/6/18 JCL
160	QC	1 pcs	6/8/18	6/8/18	0.00	0.00	QC2 Machining-2		18/6/18 JCL
170	QC	1 pcs	6/8/18	6/8/18	0.00	0.00	QC8 Machining-2		18/6/18 JCL
180	Skid tubes	1 pcs	6/8/18	6/8/18	0.00	0.91	Skid tubes-3		MGC
190	QC	1 pcs	6/8/18	6/8/18	0.00	0.00	QC5		PD 15-06-18
200	HandFinish	1 pcs	6/8/18	6/8/18	0.00	0.38	HandFinish1		BE
210	QC	1 pcs	6/8/18	6/8/18	0.00	0.00	QC7-2		BE
220	Skid tubes	1 pcs	6/8/18	6/8/18	0.00	0.91	Skid tubes-3		DAS
230	QC	1 pcs	6/8/18	6/8/18	0.00	0.00	QC5		38
235	HandFinish	1 pcs	6/8/18	6/8/18	0.00	0.38	HandFinish2		SA 18-07-12
240	SprayPaint	1 pcs	6/8/18	6/8/18	0.00	0.64	Spray Paint		18 JUL 15 2018
250	QC	1 pcs	6/8/18	6/8/18	0.00	0.00	QC14		18-7-19
255	Skid tubes	1 pcs	6/8/18	6/8/18	0.00	0.91	Skid tubes-3		18-7-19
257	QC	1 pcs	6/8/18	6/8/18	0.00	0.00	QC5		18-7-19
260	Packaging	1 pcs	6/8/18	6/8/18	0.00	0.00	Packaging3-1		18-7-19
280	QC21-SA	1 Ea	6/8/18	6/8/18	0.00	0.00	QC21		21 JUL 19 2018

Part Op 100 - Cut as per dwg.

Descriptions: 110 - Bend as per Dwg D3391

130 - 1-Machine as per Folio FA590 Rev. 6.685 & Dwg D3391 Rev. ____ Identify as D3391-1

150 - 1-Drill .1875" at end of tube as per Dwg D3391

180 - 1-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step (Do not open tow cap holes to finish size) 2-Drill and float bag holes as per Dwg D3391 using DT8798 (DRILL ALL HOLES)

4-Open tow cap holes to .208" as per Dwg D3391 4-Open Tow Ring hole to .640" as per Dwg D3391 4-Open float bag holes 0.328" and counter sink as per dwg D3391 6-Deburr and scribe batch # inside aft end 7-transfer drill D3391-011 with D3391-013 ***NO WEARPLATE HOLES ARE TRANSFER DRILLED*** MID TUBE BATCH

5078419

200 - REALODINE AS PER PAR09-043

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐						
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				
								Completed By
								Lead hand / Supervisor Approval Verification
								QC / QA Coordinator Approval
Root Cause		FAULT CATEGORY						
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : _____		

220 - 1-Install crossbolt spacers per dwg D3391 A/R Magnabond 6398 batch: M137073 2- Grind flush 3- back drill crossbolt if necessary
 235 - AND REALODINE AS PER PAR09-043
 240 - PRIME AS PER DWG AND QSI005 4.2.1.3.3 PRIMER BATCH: 138862 PAINT AS PER DWG AND QSI005 4.2.2.4 PAINT: 138886
 255 - **** install D3591-1 spacer as per DSI9364 and wearplate as per DWG ****

Job BOM

Part / Item	Component Name	Quantity	Operation
D6013-047	Skidtube Material	1 Ea (1 ea)	90-Start up Operation
D3670-4-200	Bushing	9 Ea (9 ea)	220-Skidtubes
AELS-1032-225	Insert	10 Ea (10 ea)	255-Skidtubes
AN3C4A	Bolt	10 Ea (10 ea)	255-Skidtubes
D3401-041	Tow Cap Assembly	1 Ea (1 ea)	255-Skidtubes
D3672-1	Washer, Phenolic	4 Ea (4 ea)	255-Skidtubes
D4095-051	Wearpad Fwd	1 Ea (1 ea)	255-Skidtubes
NAS1149C0332R	Washer	10 Ea (10 ea)	255-Skidtubes

664503
 B86064
 5021404 (8) / 5081002 (1x)
 5058139
 5068642
 5071282
 F15007d
 5155902-12
 5056493

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D6013-047	1	44	0
220-Skidtubes	D3670-4-200	9	32	0
255-Skidtubes	AELS-1032-225	10	0	0
	AN3C4A	10	1,908	0
	D3401-041	1	7	0
	D3672-1	4	1,088	0
	D4095-051	1	25	0
	NAS1149C0332R	10	6,681	0



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 CANADA
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Container No: S076904



Part: D3391-011
 Job No: 178429
 Serial No/Batch: S076904

Revision:
 Inspector:
 Exp Date: 05/31/2018
 Instructions:

Date: 05/31/18

1/18 12:50 PM Dart.lajeunesse.marie

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

INSPECTION SHEET

Rev	Date	Change	Revised by	Approved
A	06.04.27	New Issue P/O D3391-011/-021	KJ/JLM	
B	06.06.19	Tolerances revised per D3391 Rev. E	KJ/JLM	
C	07.03.21	Dimensions removed per Dwg rev. F	KJ/JLM	
D	07.11.23	Dwg Rev. updated	KJ/EC/DD	
E	09.12.14	Dwg Rev updated	KJ	
F	11.06.21	Dimension 0.500 added	KJ	
G	12.05.15	Dwg Rev updated	KJ	
H	16.06.23	Dimensions updated per Dwg Rev J	KJ	

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION		AGAINST DEPARTMENT/PROCESS					
	Rework ☐	Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐			
	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐			
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐			
	Suspected Unapproved ☐	Large Fab ☐	Composite ☐	Supplier ☐				

Date : _____	Step #: _____	QTY Effective : _____	MRB (QSI042) Approval
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Description Work Order Deviation	Disposition	Completed By
15/11/2017 18/11/2017		Lead hand / Supervisor Approval Verification
		QC / QA Coordinator Approval

Root Cause			FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____				
Misidentified ☐	Past Due ☐					